CLAIMS:

1.   A processor system comprising at least a first and a second processor element (PE1, PE2), the first processor element (PE1) having a cluster request indicator (CR12) related to the second processor element and the second processor element (PE2) having a cluster request indicator (CR21) related to the first processor element, the processor elements having an instruction set enabling dynamic control of the indicators, the indicators (CR12, CR21) having a value range comprising at least a first value (positive indicator) indicating that the processor element requests to form a cluster with the related processor element, and a second value (negative indicator) indicating that the processor element does not request to form a cluster with the related processor element, the system further comprising a cluster control facility (CC12) which detects the value of the cluster request indicators and organizes the processor elements in clusters in accordance with the detected values, two processor elements belonging to the same cluster if they have positive indicators related to each other, or if there is a sequence of processor elements comprising those two processor elements, wherein each pair of subsequent processor elements has positive indicators related to each other.

2.   A processor system according to claim 1, wherein processor elements organized in a cluster operate under a common thread of control.

3.   A processor system according to claim 1, wherein the cluster control facility (CC12) provides a suspend signal (WT1, WT2) to a processor element which attempts to form a cluster with other processor elements not yet ready to join said cluster.

4.   A method for operating a system comprising at least a first and a second processor element, the method comprising programmably controlling a cluster request indicator of the first processor element related to the second processor element and programmably controlling a cluster request indicator of the second processor element related to the first processor element,

17

the indicator having a value range comprising at least a first value (positive indicator) indicating that the processor element requests to form a cluster with the related processor element, and a second value (negative indicator) indicating that the processor element does not request to form a cluster with the related processor element,

5   detecting the value of the cluster request indicators and organizing the processor elements in clusters in accordance with the detected values, two processor elements belonging to the same cluster if they have positive indicators related to each other, or if there is a sequence of processor elements comprising those two processor elements, wherein each pair of subsequent processor elements has positive indicators related to each other.

10

5.   A program for a system comprising at least a first and a second processor element, the first processor element having a cluster request indicator related to the second processor element and the second processor element having a cluster request indicator related to the first processor element, the processor elements having an instruction set enabling

15   dynamic control of the indicators, the indicator having a value range comprising at least a first value (positive indicator) indicating that the processor element requests to form a cluster with the related processor element, and a second value (negative indicator) indicating that the processor element does not request to form a cluster with the related processor element,

the system further comprising a cluster control facility which detects the value

20   of the cluster request indicators and organizes the processor elements in clusters in accordance with the detected values, two processor elements belonging to the same cluster if they have positive indicators related to each other, or if there is a sequence of processor elements comprising those two processor elements wherein each pair of subsequent processor elements has positive indicators related to each other,

25   the program comprising at least a first instruction, which causes a change in the value of at least one of the cluster request indicators.

6.   A compiler for generating a program according to claim 5.

30   7.   A record carrier comprising a program according to claim 5.